

## **II. SUBSTANCE OF THE INTERVIEW**

During the Examiner Interview on February 7, 2006, Applicant discussed a proposed claim amendment with Examiner, specifically vis-à-vis U.S. Patent No. 6,577,634 to Tsukakoshi *et al.* (hereinafter referred to as “Tsukakoshi”). It was Applicant’s position that all of the route calculation units 20 in Tsukakoshi implement the same set of two or more routing protocols. The Applicant referred to Tsukahoshi’s “Summary of the invention” which describes that, upon occurrence of a change in the network information managed by a given routing protocol means 15 in a given router 12, this change is communicated to the corresponding routing protocol means 15 in all other routers 12 in the clustered router 11 (see col. 2, lines 11 to 25, and see also col. 3, lines 31 to 54).

Examiner informed Applicant that the proposed amendment raised a “new issue” which could not be dealt with unless an RCE were filed. The present RCE and accompanying submission are in response to those remarks.

## **III. REMARKS / ARGUMENTS**

### ***A. Summary of the Amendments***

The present application now comprises forty-four (44) claims, numbered 1 to 30, 35, 38 to 41 and 50 to 58.

Claims 1, 3 to 12, 14 to 16, 19 to 26, 29, 30, 38, 41, 50 and 51 have been amended to clarify the subject matter being claimed.

Claims 42 to 49 have been cancelled without prejudice. Claims 31 to 34, 36 and 37 have been previously cancelled.

New claims 52 to 58 have been added.

Support for the amendments made can be found throughout the specification and drawings as originally filed. No new matter has been added to the application by way of the present amendment.

***B. Rejection of claims 1 to 21, 23 to 25, 30, 42 to 47, 50 and 51 under 35 USC 102***

On page 2 of the Final Office Action, the Examiner rejected claims 1 to 21, 23 to 25, 30, 42 to 47, 50 and 51 under 35 USC 102(e) as being anticipated by U.S. Patent No. 6,577,634 to Tsukakoshi *et al.* (hereinafter referred to as “Tsukakoshi”).

As described below, and as discussed during the Examiner Interview (regarding claim 1), the Applicants respectfully submit that claims 1 to 21, 23 to 25, 30, 50 and 51, as effected by the present amendment, are in condition for allowance. The rejections of claims 42 to 47 are moot in view of cancellation of these claims from the application.

**Independent claim 1**

The Examiner’s attention is directed to the following excerpt of claim 1, portions of which have been emphasized:

A router supporting multiple routing protocols, said router comprising:

[...]

- c. a routing layer in communication with said interface layer, said routing layer including a plurality of routing protocol computing entities, each routing protocol computing entity being associated with a respective set of at least one routing protocol and including:
  - i. a respective CPU; and

- ii. a respective data storage medium in communication with said CPU and storing program data for execution by said CPU to cause said routing protocol computing entity to effect management of one or more peering sessions with remote routing devices according to the at least one routing protocol in the set associated with said routing protocol computing entity;

wherein **the set of at least one routing protocol associated with a first one of said routing protocol computing entities is different from the set of at least one routing protocol associated with a second one of said routing protocol computing entities.**

As discussed during the Examiner Interview, it is respectfully submitted that Tsukakoshi does not teach or suggest a plurality of routing protocol computing entities each associated with a respective set of at least one routing protocol and including a respective CPU and a respective data storage medium, where the set of at least one routing protocol associated with a first routing protocol computing entity is **different** from the set of at least one routing protocol associated with a second routing protocol computing entity.

Specifically, Tsukakoshi describes a clustered router 11 in which each of a plurality of routers 12 has a route calculation unit 20. Each route calculation unit 20 implements “two or more routing protocol means 15 which execute routing protocols” (see col. 3, lines 18 to 20). There is absolutely no mention or suggestion of the sets of two or more routing protocols implemented by the route calculation units 20 being different from one another. On the contrary, all of the route calculation units 20 implement the same set of two or more routing protocols. This is at the very core of Tsukakoshi’s invention as clearly evidenced by Tsukahoshi’s “Summary of the invention” which describes that, upon occurrence of a change in the network information managed by a given routing protocol means 15 in a given router 12, this change is communicated to the corresponding routing protocol means 15 in all other routers 12 in the clustered router 11 (see col. 2, lines 11 to 25, and see also col. 3, lines 31 to 54).

Thus, all of the route calculation units 20 in Tsukakoshi's clustered router 11 implements the **same** set of two or more routing protocols. Accordingly, Tsukakoshi fails to teach or suggest the claimed scenario where the set of at least one routing protocol associated with a first routing protocol computing entity is **different** from the set of at least one routing protocol associated with a second routing protocol computing entity.

In light of the above, it is respectfully submitted that at least one element of claim 1, as amended, is neither taught nor suggested by Tsukakoshi. Accordingly, the Examiner is respectfully requested to withdraw the rejection of claim 1, which is believed to be in condition for allowance.

Dependent claims 2 to 21, 50 and 51

Each of claims 2 to 21, 50 and 51 depends on claim 1 and therefore incorporates by reference all of the elements of claim 1. Hence, for the same reasons as those set forth above in respect of claim 1, the Applicants respectfully submit that claims 2 to 21, 50 and 51 are in condition for allowance. The Examiner is therefore respectfully requested to withdraw the rejections of these claims.

Independent claim 23

The Examiner's attention is directed to the following excerpt of claim 23, portions of which have been emphasized:

A router, comprising:

[...]

- c. a routing layer in communication with said interface layer, said routing layer including a plurality of routing protocol computing entities, each routing protocol computing entity being associated with a respective routing protocol and including:
  - i. a respective CPU; and

ii. a respective data storage medium in communication with said CPU and storing program data for execution by said CPU to cause said routing protocol computing entity to effect management of one or more peering sessions with remote routing devices according to the routing protocol associated with said routing protocol computing entity, said management of one or more peering sessions comprising maintaining in said data storage medium one or more route databases; wherein the one or more route databases maintained in the data storage medium of a first one of said routing protocol computing entities contain information on **at least one route for which there is no information on** in the one or more route databases maintained in the data storage medium of a second one of said routing protocol computing entities.

It is respectfully submitted that Tsukakoshi does not teach or suggest a plurality of routing protocol computing entities each operative to maintain in its respective data storage medium one or more route databases, where the one or more route databases maintained in the data storage medium of a first routing protocol computing entity contain information on **at least one route for which there is no information** in the one or more route databases maintained in the data storage medium of a second routing protocol computing entity.

Specifically, Tsukakoshi describes that each route calculation unit 20 of the clustered router 11 includes a memory 42 storing respective network information 16 for each routing protocol means 15 of that route calculation unit<sup>1</sup>. As mentioned above in respect of claim 1, upon occurrence of a change in the network information 16 managed by a given routing protocol means 15 in a given router 12, this change is communicated to the corresponding routing protocol means 15 in all other routers 12 in the clustered router 11 such that all corresponding routing protocol means 15 in all the routers 12 have the **same** network information 16 (see col. 2, lines 11 to 28; col. 3, lines 31 to 57; and col. 8, line 51 to col. 9, line 14 with col. 9, lines 43 to 50). This is further clearly evidenced by Tsukakoshi's own recap of, and main

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<sup>1</sup> Based on remarks made on pages 15 and 42 of the Final Office Action, the Examiner considers that the network information 16 stored in the memory 42 of a given one of Tsukakoshi's route calculation units 20 effectively corresponds to the information contained in the one or more route databases maintained in the data storage medium of a given one of the claimed routing protocol computing entities.

claim for, its clustered router, which describe that all routers 12 (and thus all route calculation units 20) in its clustered router share their network information with each other so as to have **identical** network information (see col. 11, lines 6 to 10 and 46 to 49).

Thus, all of Tsukakoshi's route calculation units 20 have the **same** network information 16, i.e., there is *duplication* of network information 16 across all the route calculation units 20. This entails that the network information 16 stored in the memory 42 in all of Tsukakoshi's route calculation units 20 contain information on **identical** sets of routes. Therefore, Tsukakoshi cannot be held to teach or suggest the claimed scenario where the one or more route databases maintained in the data storage medium of a first routing protocol computing entity contain information on at least one route for which there is no information on in the one or more route databases maintained in the data storage medium of a second routing protocol computing entity.

In light of the above, it is respectfully submitted that at least one element of claim 23, as amended, is neither taught nor suggested by Tsukakoshi. Accordingly, the Examiner is respectfully requested to withdraw the rejection of claim 23, which is believed to be in condition for allowance<sup>2</sup>.

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<sup>2</sup> On pages 42 and 43 of the Final Office Action, the Examiner comments on Tsukakoshi's routing table 17 in each route calculation unit 20 and asserts that "there is no reason to assume the routing table 17 is identical between two routers running the same protocol".

Since the Examiner considers that it is the network information 16 in each of Tsukakoshi's route calculation units 20 that effectively corresponds to the information contained in the one or more databases of each of the claimed routing protocol computing entities (see footnote 1 on page 22), the Examiner's comments regarding Tsukakoshi's routing table 17 are inconsequential. However, for the sake of completeness, the Examiner's assertion that "there is no reason to assume the routing table 17 is identical between two routers running the same protocol" will be briefly addressed.

As shown above in respect of claims 1 and 23, Tsukakoshi's routing tables 17 are built by route calculation units 20 that run identical sets of routing protocols on identical sets of network information 16. Based on this and Tsukakoshi's total lack of any mention or suggestion that the resulting routing tables 17 are different, there is absolutely no reason to believe that the routing tables 17 are different from one another. On the contrary, this suggests that the routing tables 17 are indeed identical. In fact, Tsukakoshi's stated purpose is to have its clustered router appear to external routers as if it were a single router, and since Tsukakoshi's routing table 17 is the route table that the forwarding units 18 receive copies of and it is standard in the art that all of the forwarding units of a given router receive copies of the same route table from which to make forwarding decisions about packets (as shown in each of Tsukakoshi's routers 12 in Figure 1), it is respectfully submitted that one of ordinary skill in the art looking at Tsukakoshi would conclude that the routing tables 17 are identical

Dependent claims 24, 25 and 30

Each of claims 24, 25 and 30 depends on claim 23 and therefore incorporates by reference all of the elements of claim 23. Hence, for the same reasons as those set forth above in respect of claim 23, the Applicants respectfully submit that claims 24, 25 and 30 are in condition for allowance. The Examiner is therefore respectfully requested to withdraw the rejections of these claims.

***C. Rejection of claim 22 under 35 USC 103***

On page 28 of the Final Office Action, the Examiner rejected claim 22 under 35 USC 103(a) as being unpatentable over U.S. Patent No. 6,577,634 to Tsukakoshi *et al.* (hereinafter referred to as “Tsukakoshi”) in view of U.S. Patent Application Publication 2002/0097730 by Langille *et al.* (hereinafter referred to as “Langille”).

Claim 22 depends on claim 1 and therefore incorporates by reference all of the elements of claim 1. These include the elements already shown in respect of claim 1 to be neither taught nor suggested by Tsukakoshi, namely a plurality of routing protocol computing entities each associated with a respective set of at least one routing protocol and including a respective CPU and a respective data storage medium, where the set of at least one routing protocol associated with a first routing protocol computing entity is **different** from the set of at least one routing protocol associated with a second routing protocol computing entity.

Turning to Langille, as an initial matter, the Examiner asserts on page 28 of the Final Office Action that “Langille discloses a similar network device to that of Tsukakoshi and includes virtual router subsystems”. With respect, the Examiner’s assertion is incorrect and serves as

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between any two routers 12 in Tsukakoshi. It is therefore respectfully submitted that the Examiner’s above assertion is incorrect.

an incorrect basis for combining Langille and Tsukakoshi. Although both Langille and Tsukakoshi use the expression “virtual router”, the two are not at all similar. In the art of routers, “virtual router” has now acquired a standard meaning of being a single physical system behaving as multiple routers (see paragraph 38 of Langille). Tsukakoshi, however, predates the standardization of this expression and uses “virtual router” to describe exactly the opposite: multiple physical routers being linked into a cluster that behaves as a single router (see Tsukakoshi’s own “Summary of the invention” on col. 2, lines 7 to 10). Since Tsukakoshi and Langille are directed to exactly opposite teachings, one of ordinary skill in the art would not be provided with any kind motivation to combine them and, in fact, would be *lead away* from such a combination.

Notwithstanding the total lack of basis for combining Langille and Tsukakoshi in view of their diametrically opposite teachings, it is respectfully submitted that Langille, in the first place, fails to teach or suggest the above-emphasized elements of claim 1 (and thus of dependent claim 22) that are already shown to be missing from Tsukakoshi.

In fact, Langille generally describes an opposite relationship whereby the routing protocols for multiple routers run on a given computing engine. Even when Langille discloses the ability to have multiple processors running routing tasks, a given virtual router does not have multiple routing protocols spread across multiple processors and multiple memories. That is, in Langille, there is only one memory that contains the routing tables for any given virtual router (see paragraph 41, lines 1 to 3, which shows that Router VR #134 gets its own context CTEXT, and paragraph 44, lines 3 and 4, which shows that when there are multiple memories each gets a subset of the context areas rather than any given context area being split among the memories). As for processing, in Langille, there is only one processor executing routing protocols for any given virtual router (see paragraph 38, lines 3 to 4, which shows that each virtual router VR is associated with a different VPRN; paragraph 43, line 9, which shows that a task supports a number of VPRNs and hence a number of virtual routers VR; and paragraph 43, lines 16 to 18, which shows that when different processors are available, the workload is

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distributed by tasks (which contain VPRNs and thus contain virtual routers VR), rather than having any given task split among the processors).

It is thus clear that Langille (like Tsukakoshi) fails to teach or suggest a router comprising a plurality of routing protocol computing entities each associated with a respective set of at least one routing protocol and including a respective CPU and a respective data storage medium, where the set of at least one routing protocol associated with a first routing protocol computing entity is **different** from the set of at least one routing protocol associated with a second routing protocol computing entity.

In light of the above, it is respectfully submitted that at least one element of claim 22 (by virtue of its dependency on claim 1) is neither taught nor suggested by the cited references, whether taken separately or in combination. Therefore, the Applicants respectfully submit that at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j)<sup>3</sup> is not satisfied. Accordingly, the Examiner is respectfully requested to withdraw the rejection of claim 22, which is believed to be in condition for allowance.

***D. Rejection of claims 26 to 29 under 35 USC 103***

On page 29 of the Final Office Action, the Examiner rejected claims 26 to 29 under 35 USC 103(a) as being unpatentable over U.S. Patent No. 6,577,634 to Tsukakoshi *et al.* (hereinafter referred to as “Tsukakoshi”) in view of “Evaluation of Border Gateway Protocol (BGP) Version 4 (V4) in the Tactical Environment” by Gobrial, IEEE, 1996 (hereinafter referred to as “Gobrial”).

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<sup>3</sup> For the Examiner to establish a *prima facie* case of obviousness, three criteria must be considered: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings, (2) there must be a reasonable expectation of success, and (3) the prior art references must teach or suggest all of the claim limitations. MPEP §§ 706.02(j), 2142 (8th ed.).

Each of claims 26 to 29 depends on claim 23 and therefore incorporates by reference all of the elements of claim 23. These include the elements already shown in respect of claim 23 to be neither taught nor suggested by Tsukakoshi, namely a plurality of routing protocol computing entities each operative to maintain in its respective data storage medium one or more route databases, where the one or more route databases maintained in the data storage medium of a first routing protocol computing entity contain information on **at least one route for which there is no information on** in the one or more route databases maintained in the data storage medium of a second routing protocol computing entity.

It is respectfully submitted that Gobrial also fails to teach or suggest the above elements of claim 23 (and thus of dependent claims 26 to 29) already shown to be missing from Tsukakoshi.

In light of the above, it is respectfully submitted that at least one element of each of claims 26 to 29 (by virtue of their dependency on claim 23) is neither taught nor suggested by the cited references, whether taken separately or in combination. Therefore, the Applicants respectfully submit that at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) is not satisfied. Accordingly, the Examiner is respectfully requested to withdraw the rejection of claims 26 to 29, which are believed to be in condition for allowance.

***E. Rejection of claims 35, 48 and 49 under 35 USC 103***

On page 33 of the Final Office Action, the Examiner rejected claims 35, 48 and 49 under 35 USC 103(a) as being unpatentable over U.S. Patent No. 6,577,634 to Tsukakoshi *et al.* (hereinafter referred to as “Tsukakoshi”) in view of “Secure Border Gateway Protocol (S-BGP)” by Kent *et al.*, IEEE Journal on Selected Areas in Communications, Vol. 18, No.4, April, 2000 (hereinafter referred to as “Kent”).

As described below, the Applicants respectfully traverse the rejection of claim 35 and respectfully submit that this claim is in condition for allowance. The rejections of claims 48 and 49 are moot in view of cancellation of these claims from the application.

Independent claim 35

Claim 35 is reproduced below with portions having been emphasized:

A router comprising:

- a. an interface layer including a plurality of I/O controllers, each I/O controller implementing an I/O port;
- b. a switching layer in communication with said interface layer for selectively establishing signal pathways between said I/O ports;
- c. a routing layer in communication with said interface layer, said routing layer being capable of managing at least one peering session with a remote routing device, the peering session including the exchange of messages with the remote routing device through one of the I/O controllers, the peering session being comprised of a plurality of tasks;
- d. the one I/O controller implementing a peering session assist module,
- e. said peering session assist module being capable of performing some of the tasks of the peering session autonomously from said routing layer;
- f. said routing layer being capable of performing tasks of the peering session other than the tasks performed by the peering session assist module;

wherein the tasks performed by the peering session assist module include authenticating messages received from the remote routing device.

It is respectfully submitted that the Examiner has failed to show that Tsukakoshi and Kent, whether taken separately or in combination, teach or suggest an I/O controller of an interface layer of a router that is operative for, autonomously from a routing layer of the router, authenticating messages received from a remote routing device during a peering session between the router and the remote routing device.

Specifically, Tsukakoshi describes a router 12 having a plurality of forwarding units 18 for exchanging packets with external routers 25 (see col. 4, lines 53 to 64 and Figure 4). However, as conceded by the Examiner on page 34 of the Final Office Action, Tsukakoshi does not disclose that the forwarding units 18 perform authentication of received packets, let alone authentication of packets received in a peering context.

Turning now to Kent, the Examiner contends on pages 34 and 35 of the Final Office Action that this reference “teaches Secure Border Gateway Protocol that provides authorization at the higher protocol level [and that] at the forwarding unit it will check if the peer that sent the update was authorized to act on behalf of its Autonomous State (AS)”. The Examiner further contends on pages 35 and 43 of the Final Office Action that:

- “Kent gives an elaborate discussion on how authentication can be done on BGP routers [and] shows a table structure on [page] 586 that can be used for authentication”;
- “[i]t would be very obvious to one ordinarily skilled in the art to place this table in the forwarding units as such units in Tsukakoshi’s system already check tables to forward packets”; and
- “[i]t is well known in the art authentication is simpler, safer and cheaper if done upfront and placing such a check in the forwarding unit is natural”.

To support his contention, the Examiner refers to specific portions of Kent, namely the “Abstract” and “B. Correct Operation of BGP” sections on page 582 and 583 as well as Table II on page 586. These portions of Kent solely refer to authentication of routing information by a “BGP speaker”. As conceded by the Examiner on page 43 of the Final Office Action, “a BGP speaker is simply a router running a BGP protocol”. There is no discussion in these portions of Kent (or anywhere in Kent for that matter) of specific components making up a “BGP speaker” and certainly no discussion of specific functionality of such components. In particular, there is no mention of forwarding units and their functionality. Therefore, the Examiner is totally incorrect in contending that Kent somehow teaches or suggests forwarding units performing authentication since Kent does not even discuss forwarding units to begin with.

Notwithstanding Kent's total lack of any kind of suggestion or motivation of authentication at the forwarding layer of a router, the Examiner's contention is also plagued with at least one other incorrect line of reasoning. Specifically, Kent's "Performance and Operational Issues" section, and particularly its "C. Storage/Memory" subsection on page 590, notes that the additional memory requirements for Kent's authentication process are large (several hundreds of megabytes) and comparable to that of "a high-end workstation". Thus, contrary to the Examiner's contention, it would have been far from obvious to implement Kent's authentication process at the forwarding layer since forwarding units are more numerous than route processors and adding the equivalent of a high-end workstation to every forwarding unit would be dramatically more expensive rather than being cheaper (as the Examiner contends).

In view of the foregoing, it is ample clear that Kent fails to provide any teaching, suggestion or motivation of performing authentication at the forwarding layer of a router.

Accordingly, Tsukakoshi and Kent, whether taken separately or in combination, cannot be said to teach or suggest an I/O controller of an interface layer of a router that is operative for, autonomously from a routing layer of the router, authenticating messages received from a remote routing device during a peering session between the router and the remote routing device.

Therefore, it is respectfully submitted that the Examiner has not established a *prima facie* case of obviousness in accordance with MPEP 706.02(j). Hence, the Examiner is respectfully requested to withdraw the rejection of claim 35, which is believed to be in condition for allowance.

***F. Rejection of claims 38 and 41 under 35 USC 103***

On page 36 of the Final Office Action, the Examiner rejected claims 38 and 41 under 35 USC 103(a) as being unpatentable over U.S. Patent No. 6,577,634 to Tsukakoshi *et al.* (hereinafter

referred to as “Tsukakoshi”) in view of U.S. Patent No. 6,049,524 to Fukushima *et al.* (hereinafter referred to as “Fukushima”).

As described below, the Applicants respectfully traverse this rejection and respectfully submit that claims 38 and 41 are in condition for allowance.

Independent claim 38

Claim 38 is reproduced below with portions having been emphasized:

A router, comprising:

- a. an interface layer including a plurality of I/O controllers, each I/O controller implementing an I/O port;
- b. a switching layer in communication with said interface layer for selectively establishing signal pathways between said I/O ports;
- c. a routing layer in communication with said interface layer;
- d. each I/O controller implementing an LSA entity, said LSA entity including an LS database, said LSA entity being responsive to an LSA message from a remote routing device including LS information to:
  - i. update said LS database; and
  - ii. forward the LS information to said routing layer.

It is respectfully submitted that Tsukakoshi and Fukushima, whether taken separately or in combination, do not teach or suggest an I/O controller of an interface layer of a router that implements an LSA entity, where the LSA entity includes an LS database and is responsive to an LSA message from a remote routing device including LS information to:

- update the LS database; and
- forward the LS information to a routing layer of the router.

Specifically, as conceded by the Examiner on page 37 of the Final Office Action, Tsukakoshi “fails to expressly disclose that the routing protocol implemented in the route calculating

entity can be the Link State protocol.” It is therefore not surprising that Tsukakoshi contains absolutely no mention or suggestion of a forwarding unit that implements an LSA entity including an LS database and having the updating and forwarding functionality claimed in claim 38.

Turning to Fukushima, this reference also fails to teach or suggest the above-mentioned elements of claim 38 that are missing from Tsukakoshi. Specifically, while Fukushima indeed describes an LS database 22, this LS database 22 is clearly maintained in Fukushima’s route calculation unit 11, i.e., in Fukushima’s routing layer. Therefore, it is abundantly clear that the LS database 22 is not maintained in Fukushima’s forwarding process units 13, i.e., in Fukushima’s interface layer (see col. 5, lines 60 to 67; col. 6, lines 1 to 4; and Figure 2).

The Examiner’s sole support for his contention that each of Fukushima’s forwarding process units 13 has an LS database is his own statement on page 37 of the Final Office Action to the effect that “[s]ince Fukushima teaches that the routing protocol is a link state protocol there has to be an LSA entity in both the router and I/O Controller layer”. If this were indeed the case, then every router that runs a link state protocol would have to include an LS database in each forwarding unit of its forwarding layer. This means that even a single router running a link state protocol without having an LS database in each of its forwarding units would disprove the Examiner’s assertion.

The Examiner is respectfully requested to note that virtually every existing router that runs a link state protocol maintains its LS database in its routing layer and not in each of its forwarding units. It is therefore respectfully submitted that the Examiner’s statement and contention are incorrect. If the Examiner maintains his position, he is kindly and respectfully urged to provide clear support for his contention that each of Fukushima’s forwarding process units 13 includes an LS database.

In light of the above, it is respectfully submitted that at least one element of claim 38 is neither taught nor suggested by the cited references, whether taken separately or in combination. Therefore, the Applicants respectfully submit that at least one criterion required

for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) is not satisfied. Accordingly, the Examiner is respectfully requested to withdraw the rejection of claim 38, which is believed to be in condition for allowance.

Dependent claim 41

Claim 41 depends on claim 38 and therefore incorporates by reference all of the elements of claim 38. Hence, for the same reasons as those set forth above in respect of claim 38, the Applicants respectfully submit that claim 41 is in condition for allowance. The Examiner is therefore respectfully requested to withdraw the rejection of this claim.

**G.      *Rejection of claims 39 and 40 under 35 USC 103***

On page 40 of the Final Office Action, the Examiner rejected claims 39 and 40 under 35 USC 103(a) as being unpatentable over U.S. Patent No. 6,577,634 to Tsukakoshi *et al.* (hereinafter referred to as “Tsukakoshi”) in view of U.S. Patent No. 6,049,524 to Fukushima *et al.* (hereinafter referred to as “Fukushima”) and in further view of U.S. Patent No. 6,820,134 to Zinin *et al.* (hereinafter referred to as “Zinin”).

As described below, the Applicants respectfully traverse this rejection and respectfully submit that claims 39 and 40 are in condition for allowance.

Dependent claims 39 and 40

Each of claims 39 and 40 depends on claim 38 and therefore incorporates by reference all of the elements of claim 38.

As already shown in respect of claim 38, Tsukakoshi and Fukushima, whether taken separately or in combination, do not teach or suggest an I/O controller of an interface layer of



a router that implements an LSA entity, where the LSA entity includes an LS database and is responsive to an LSA message from a remote routing device including LS information to:

- update the LS database; and
- forward the LS information to a routing layer of the router.

Furthermore, Zinin also fails to teach or suggest these elements of claim 38 (and thus of claims 39 and 40) that are missing from Tsukakoshi and Fukushima. Specifically, while Zinin describes a link state database 220, this link state database 220 is clearly not maintained in any of Zinin's network interfaces 210A to 210D, i.e., in Zinin's interface layer (see col. 6, lines 31 to 34 and Figure 2).

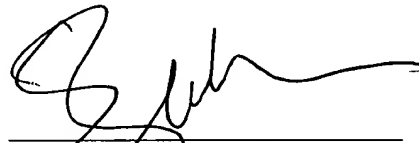
In light of the above, it is respectfully submitted that at least one element of each of claims 39 and 40 (by virtue of their dependency on claim 38) is neither taught nor suggested by the cited references, whether taken separately or in combination. Therefore, the Applicants respectfully submit that at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) is not satisfied. Accordingly, the Examiner is respectfully requested to withdraw the rejection of claims 39 and 40, which are believed to be in condition for allowance.

#### IV. CONCLUSION

The Applicants are of the view that claims 1 to 30, 35, 38 to 41 and 50 to 58 are in condition for allowance. Favorable reconsideration is requested. Early allowance of the application is earnestly solicited.

If the application is not considered to be in full condition for allowance, for any reason, the Applicants respectfully request the constructive assistance and suggestions of the Examiner in drafting one or more acceptable claims pursuant to MPEP 707.07(j) or in making constructive suggestions pursuant to MPEP 706.03 so that the application can be placed in allowable condition as soon as possible and without the need for further proceedings.

Respectfully submitted,

  
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